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THESIS

MARINE CORPS COMBAT READINESS EVALUATION SYSTEM (MCCRES): THREE CASE STUDIES FOR USE IN PROVIDING FOR A MORE EFFECTIVE EVALUATOR

by

Larkin E. Conatser

December 1983

Thesis Advisors: K. J. Euske
J. F. Mullane

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The purpose of this thesis is to analyze the selection and use of evaluators in the MCCRES. The current structure and process used for management control in the selection and subsequent education of MCCRES evaluators was investigated. MCCRES evaluators were interviewed and their recommendations for improving evaluator effectiveness were compared with the existing MCCRES models. The comparison resulted in a set of recommendations to modify the current models.

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Marine Corps Combat Readiness Evaluation System (MCCRES): Three Case Studies for Use in Providing for a More Effective Evaluator

by

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requirements for the degree of

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ABSTRACT

The Marine Corps Combat Readiness Evaluation System (MCCRES) was designed to provide timely and accurate information concerning the ability of active and reserve forces to perform assigned combat missions. To provide this information, units are subjected to simulated combat problems. Their performance is observed, evaluated, and reported by evaluators from within the Marine Corps. These evaluators are key to the collection of valid evaluation data. If the evaluator is not effective, then the MCCRES, as an evaluation system, is ultimately ineffective in determining a unit's "combat readiness."

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I. INTRODUCTION

A. GENERAL

In 1978 the Marine Corps initiated a new evaluation system to be used throughout the Corps. This system, the Marine Corps Combat Readiness Evaluation System (MCCRES), was developed to provide a means to effectively measure and then report findings as to whether a given unit was, or was not, prepared to perform its assigned combat mission. This new system was to provide both standardized measurement objectives and reports for the combat unit evaluated, regardless of the uniqueness of its assigned combat mission. MCCRES can be viewed as part of the Marine Corps' management control system, in that it is a means by which the Marine Corps assures its resources are used to meet its objectives [Anthony and Herzlinger, 1980].

After five years of operating this evaluation system, it is perhaps an appropriate time to review the effectiveness of the various inputs into the MCCRES in meeting the originally designed objective: effective measurement of combat readiness. One important input into MCCRES is the evaluators. Their effectiveness in the proper marking of a given observation contributes directly to the ability of the system to meet its designed operational objectives. The

selection and training of these individuals has the potential to affect the quality of the MCCRES.

B. OBJECTIVE

The objective of this thesis is to analyze the selection and use of evaluators in the MCCRES. In order to achieve this objective an answer to the following question is sought: "Can a model be developed to assist in the efficient selection and education of potential MCCRES evaluators so that the evaluators will perform at a predetermined level of effectiveness?"

If a model can be developed, a secondary question then must be asked: "What attributes of the management control system (i.e., its structure and process) will this model provide?" The attributes provide the concerned commander with a technique, or tool, that can be used for more effective and efficient management of limited resources.

C. SCOPE AND METHODOLOGY

The scope of this thesis is limited to the function of the evaluator within the MCCRES. Of primary concern is how the evaluator, as a resource, can be more effectively used. This can be accomplished by modifying, directing and channeling the influence he has on MCCRES as a result of: (1) qualifications and attributes he brings with him (e.g., his past experience), (2) attributes acquired immediately

before a MCCRES (e.g., attendance at a MCCRES evaluators school), and (3) those attributes acquired during the conduct of a MCCRES (e.g., individuals that can influence his behavior during the conduct of a MCCRES).

The method used to investigate the area of concern was to: (1) conduct a field study to gather information that contributed to evaluator effectiveness, (2) compare this information with that of accepted management control theory, and (3) take the results of the comparison and develop a model that would help the commander to execute more effective control over the operation of the evaluation system.

The model provides the commander a means to improve the effectiveness of his evaluators in the measuring of an observation and then reporting that information into the MCCRES. However, the model is only a visual means of describing how a certain "structure" and "process" allows for a better way of conducting business. It is paramount to remember that it is the knowledgeable commander and the use of his good judgement, applied to a particular problem, that produces the resulting decision that actuates the efficient and effective operations.

II. BACKGROUND

A. GENERAL

This chapter addresses the purpose, scope, structure, and process of the Marine Corps Combat Readiness Evaluation System (MCCRES). The focus will be on MCCRES accomplishing a required need as seen from the Headquarters, Marine Corps level.

Prior to 1978 the Marine Corps did not have a uniform method for the measurement of accepted standards in determining a given unit's combat readiness. Unit operational readiness tests, or "Tac Tests" were conducted with standards individually constructed and implemented at essentially every major wing and ground tactical organization throughout the Corps. Although the "Tac Tests" may have been useful within the units that developed them, there was not any organized way to compare results between similar units of other organizations. It was this lack of uniformity in determining combat readiness that prompted the Commandant of the Marine Corps to establish an evaluation system that would provide a single standard, a method of application, and procedures for measurement of combat readiness. This was done on 1 July 1978 after considerable consternation and thoughtful planning. [Erickson, 1981]

B. PURPOSE OF MCCRES

One of the most crucial problems facing Marine Corps commanders is the maintenance of an "effective" military capability. Creating combat-ready units in time of war; establishing standards and priorities for training, procuring, and staffing during periods of relative peace; and assuring a Marine Corps capability that deters potential adversaries from dangerous adventures have long been the central mission of the U.S. Marine Corps. [DARPA, 1977] Measuring "military effectiveness" can be accomplished through a formal system of measurement that maintains a single standard and is uniformly applied throughout the entire Corps. [DARPA, 1979] Within this paper no distinction is made between the terms "effectiveness" and "readiness." For purposes of clarity, the word readiness will be used throughout this paper. [DARPA, 1977]

A major difficulty in measuring the readiness of a unit results from the fact that the unit is not evaluated under real combat conditions. Instead, it is evaluated while executing several exercises representing typical operations which the unit is supposed to be able to execute while accomplishing its mission under combat conditions. To avoid the difficulty of achieving perfect duplication of combat conditions, it is common to replace the question "Can the unit do the job?" by "How 'close' is the execution to the doctrine." It is assumed that units which follow the

doctrine closely are likely to be able to do their job: mission accomplishment under conditions of conflict. [Barzily, 1980]

The purpose of MCCRES is to use simulated combat to evaluate the readiness of Marine units in their "effective" accomplishment of assigned missions.

C. SCOPE OF MCCRES

Upon implementation of the MCCRES, specific tests were designed for use in the evaluation of all units in the Corps that perform a combat associated mission.

MCCRES was adopted in July, 1978, to provide standardized evaluation policies and procedures, and to provide the definition of standards for mission performance that are applicable to evaluation of the combat readiness of Fleet Marine Force units. Specifically, MCCRES provides:

---Performance standards (MPS) based on assigned missions.

---A standardized evaluation process.

---A standardized reporting system.

---Feedback to units indicating, strengths and weaknesses.

The entire MCCRES system is contained in a ten volume order. Volume I outlines the evaluation system and defines the Mission Performance Standards (MPS). The application of these MPS's is the backbone of the evaluation process. It

can be argued that MPS's are the system designers' approach to devising doctrinally correct, standardized criteria for evaluating a unit tactically. In developing this criteria the designers tried to eliminate subjective evaluation and to promote quantitative analysis. [Rothwell, 1979]

D. ELEMENTS OF MCCRES

MCCRES, as a formal evaluation system, must possess two elements: (1) structure, and (2) process. The structure is the organizational arrangements and information constructs that facilitate the process. The process is the set of actions that take place. Stated more simply, structure is what it is and process is what it does. In studying the human body, for example, one needs to understand both its anatomy and its physiology. [Anthony and Herzlinger, 1980; Anthony and Herzlinger, 1975] These two elements are used throughout this thesis to focus on how MCCRES functions as a system.

1. MCCRES Structure

The structure of MCCRES, as an evaluation system provides the organization for control and assignment of responsibilities in the collection and evaluation of appropriate data to be used in the determination of unit readiness. [MCO 3501.2, 1977]

It is the structure of MPS's that deal with specific operational functions and missions that a unit might be

expected to accomplish in combat. Mission oriented MPS's for an infantry battalion might include attack, defense, tank-infantry operations, mechanized operations, and surface assault.

The structure of MPS's can be further broken down to that of:

---Task to be performed.

---Requirements which must be accomplished to fulfill the task.

---Conditions under which the task is to be performed.

The relationship of MPS's elements are reflected in Figure 2.1.

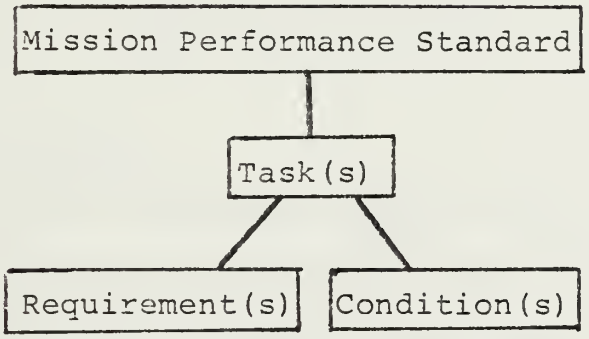

Figure 2.1 Relationship of elements to MPS, MCCRES [MCO 3501.2, 1977]

It is the breaking down of MPS's into smaller more manageable parts (observations) that allow the MCCRES evaluators to more accurately measure and evaluate a given mission of a unit.

Organizationally, the structure of the MCCRES team is one that facilitates that of command and control. [MCO 3501.2, 1977] It typically reflects that of a line and staff structure, as depicted in Figure 2.2.

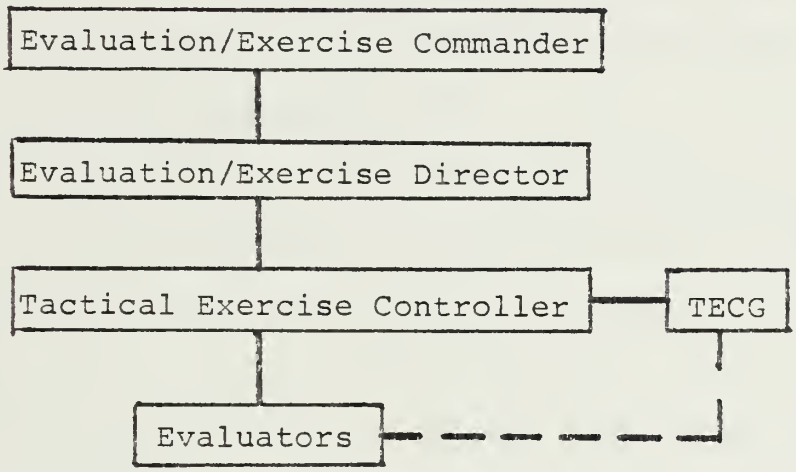

Figure 2.2 MCCRES Organizational Structure
[MCO 3501.2, 1977]

2. MCCRES Process

The process element of MCCRES, as an evaluation system, is the action that provides, once initiated, for the continuous collecting of proper information, review of data, and feedback of information, that is germane to unit readiness. Figure 3.3, Chapter III, depicts the MCCRES management control process.

The MCCRES process begins prior to the actual simulated combat scenario. As provided in Volume I of the Order, a MCCRES evaluation team is selected and schooled on doctrine that will be applicable to the scenario to be used

in the unit's MCCRES. The scenario, potential evaluators, schooling of the evaluators, and the selection of MPS's are controlled by the Headquarters that is usually two command levels above that of the unit to be evaluated. Once the administering of the MCCRES evaluation begins, the responsibility for the conduct of the MCCRES is turned over to the Tactical Exercise Controller (TEC).

The scenario is coordinated and controlled by the Tactical Exercise Controller (TEC) such that it allows for maximum evaluator observation at the subordinate unit level of the unit receiving the MCCRES evaluation (that is, companies are observed if the Battalion is the designated unit receiving a MCCRES). At this point in the MCCRES the evaluation is decentralized to the unit level where observation and grading takes place. However, the evaluators meet daily with the Senior Evaluator to provide their notes and graded input on observed tasks at the subunit level. Upon the completion of a MCCRES evaluation, which usually takes about four days, the yes/no scores of all evaluator observed tasks are aggregated and used to determine the units overall "go/no go" grade for a given MPS. The total of all graded MPS's in turn, result in the overall unit MCCRES "score." [MCO 3501.2, 1977]

Upon completion of the MCCRES, the unit receives a debrief by the Senior Evaluator and within 10 days an Initial Report (by message) reflecting the MCCRES results is

sent by the Senior Evaluator to Headquarters, Marine Corps. A second Follow-up Report, which is more comprehensive than the Initial Report is sent within thirty working days.

The entire process is structured such that it is to be confidential in nature and the information from the MCCRES is not to be used by others in comparing results with sister units. The confidentiality and control of information helps to negate the "report card" effect on the commander of the unit receiving the MCCRES.

E. SUMMARY

The MCCRES is a system to evaluate a combat unit's ability to perform its stated mission. The MCCRES Order sets up a structure and process for the operational control of the evaluation system that is used to evaluate whether a combat unit is ready or not to perform its stated mission. These two elements, structure and process, are common subsets of any management control system. It is this formulation of a structure and process to insure that resources are used effectively and efficiently to meet Marine Corps objectives. These objectives should drive the selection, schooling, and ultimately the effectiveness of MCCRES evaluators. The evaluators significantly influence the input of information, valid or invalid. Such information either contributes to making the system perform as designed or completely destroys its credibility. As stated in

Chapter I, this paper focuses on these two control elements to determine if there might be a way to facilitate the efficient and effective use of evaluators.

Before this determination can be done, one must establish a common ground as to what a management control system is, and what it is supposed to accomplish. Therefore, the theory of management control is presented in Chapter III. Chapter IV presents data on MCCRES evaluators obtained from field work and appropriate analysis. Chapter V pursues the possibility of constructing a model to assist in the commander's selection of potential evaluators. The model is then reviewed to determine if it holds up under previously stated management control theory.

III. MANAGEMENT CONTROL

A. GENERAL

Management Control Theory should be one of man's best friends, so state many authors of writings found on the field of management. [Anderson and Herzlinger, 1980; Anderson and Dearden, 1980; Bonini, Jaedicke, and Wagner, 1964; Roth, Allen, and Smith, 1982] This chapter discusses how management control is germane to the question posed in this thesis. Specifically this chapter discusses management control and its critical role in providing a structure and process that facilitates for the effective use of MCCRES evaluators and their measuring of unit readiness.

The approach used in presenting management control is to start with a working definition of management control, to introduce control as a general concept, and then to expand the discussion of management control to its elements of structure and process. Ultimately, these concepts collectively should bring the reader to understand what management control systems are and what they should do. Once a view of the management control system is presented, an investigation of how it provides for evaluation and its evaluators is offered. Finally, the element of measurement, as it relates to the management control system, is discussed in terms of its effect on evaluators in performing their duties.

B. DEFINITION

Any management control system is actually a collection of integrated control subsystems or building blocks that together provide the formal means by which top management actually runs their organization. Some examples of control subsystems are:

---Organizational structure

---Measures of performance

---Planning and budgeting

---Capital, or program budgeting

---Managerial rewards and punishment. [Rotch, 1982]

The control subsystems that directly influence the investigation of this thesis are: (1) Organizational Structure and (2) Measuring Performance.

As a common point of departure, a working definition for management control needs to be developed. Unfortunately, there are as many definitions for management control as there are authors in the field. Possibly the best known definition of management control is "the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives." [Anthony and Herzlinger, 1975] This definition stresses the accomplishment of organizational goals through implemented strategies. Another useful definition is by Hofstede, who defines management control "as a pragmatic concern for results, obtained through people."

This definition is useful because it focuses on managers where they live--managing people as one of several available but limited resources to ultimately achieve results. A lesser known, but equally descriptive definition is, "the process whereby managers lead and motivate self-directed efforts of organizational members to jointly accomplish organizational and individual goals, using periodic evaluation of performance." [Ramanathan, 1982] Finally, a very general definition, "a system whose purpose is to attain and maintain a desired state or condition." [Anthony, and Dearden, 1980] Although the list of management control definitions could continue, [Anthony and Herzlinger, 1980; Schoderbek, and Kefalas, 1980; Bonini, Jaedicke, and Wagner, 1964; Rotch, Allen, and Smith, 1982] each has a central theme that managers of resources must apply checks and balances to the use of those resources in order to achieve stated goals as efficiently and effectively as possible.

It is important to note that in many readings on management control the definitions of the terms objective, and goal are interchanged. For the purpose of this thesis the definitions used will be that of Anthony and Herzlinger. They are:

---Goal - Goals of an organization are set in the strategic planning process and are broad fairly timeless statements. For the purpose of management control these goals

are taken as given. Management control is intended to facilitate the achievement of these goals.

---Objective - Objectives of an organization are more specific statements with their achievement contemplated within a specific time period. It is through the achieving of these objectives that an organization approaches its attainment of a stated goal. [Anthony and Herzlinger, 1980]

C. CONTROL

Control is one of the five basic management processes. The other four are, planning, organizing, staffing, and directing. [Anthony and Herzlinger, 1980]

1. Concept

The concept of control is one that is basic in the lives of managers. Control is the process by which actual output is compared to planned output and the corrections required to bring planned and actual output closer together are accomplished. In other words, control is the process of monitoring activities and feeding back those results for the issuance of further guidance. An Input/Process/Output model, reflecting a "closed loop," for the process of this concept is shown in Figure 3.1.

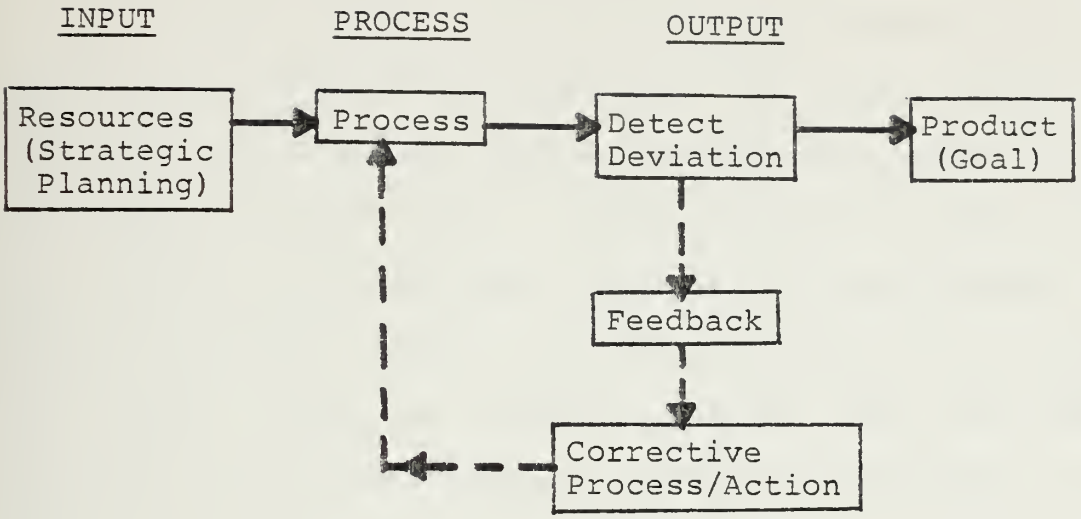

Figure 3.1 Control and Feedback
[Koontz, O'Donnell and Weihrich, 1980]

It is this degree of applied control that affects human behavior by reducing the freedom of action of those managers under its power. Stated another way,--control is a result of a conscious management process, planning, that measures results against planned effort. The control system must be compatible with the goals, design, and objectives of the organization. In the planning process, management decides what the organization should be doing, and the control process compares actual accomplishments with these plans. [Anthony and Dearden, 1980] Thus, in an organization there is a close connection between the planning process and the control process. This connection is so close that for many purposes planning and control should be viewed as a single process. [Anthony and Dearden, 1980]

Bozin, (1981) discussed this tie between control and planning as presented by Koontz and O'Donnell. They state that the basic control process, regardless of where it exists or what it controls, can be seen as involving three steps: (1) establishing standards, (2) measuring performance against these standards, and (3) correcting deviations from standards and plans. Koontz and O'Donnell further state that central to this view is the concept of information feedback. Feedback is the process which discloses errors or deficiencies in goal attainment and returns feedback information to the system. Examples of this control through feedback are ubiquitous. They include: (1) the regulation of temperature and respiratory functions in the human body, (2) the regulation of a simple mechanical engine's speed through a system of flyweights, and (3) the regulation of home heating and cooling through a thermostat. Each of these examples can be followed through the control and feedback process presented in Figure 3.1.

2. Design

Newman (1975) presents control design as a series of elements. First, if controls are to work, desired results must be defined in measurable terms and linked to results attributable to specific individuals. Secondly, effective control is largely based upon predictions of results rather than upon actual results. Therefore, the designer must establish whether the predictors of results can be identified

early in the process. This view argues for the use of controls to be used to maintain the direction of purposeful behavior. Newman lists predictors of results as: measurements of inputs, success of early steps, monitoring of process variables, the existence of symptomatic conditions, and relative deviation from assumed operating conditions.

Newman's third step is to select composite feedback. Selecting composite feedback means selecting the predictors that are useful within the given system.

As the fourth step, it is necessary to set some par value or standard for each predictor or desired result. Though the end results are identified for the predictor, there still is no way of knowing whether that result is good or bad without a par value.

The fifth step of Newman's concept is one of asking the question as to what should be done with the collected information. What should be reported? To whom should the information be reported? When should the information be reported? How should the information be reported? All these questions need to be asked, remembering that the control information should be part of a formal reporting system.

Newman concludes that after these five steps are accomplished the final, or sixth step is to evaluate and take corrective action. [Newman, 1975] Newman's presentation falls entirely within the process reflected in Figure 3.1, and follows other accepted concepts of control design

[Suchman, 1967; Weiss, 1972; Bonini, Jaedicke, and Wagner, 1964].

D. MANAGEMENT CONTROL

Anthony and Herzlinger, (1980) state planning and control cannot be separated or even distinguished as separate entities in most cases. They further stipulate the combination of these two processes can be divided into three other distinct processes: (1) strategic planning, (2) management control, and (3) operational control. These three processes, their definitions, and relationship to each other will be discussed in this section.

Anthony and Herzlinger, (1980) in their discussion on management control, state there are two important activities that all managers engage in: (1) planning and (2) control. Planning is deciding what should be done and how it should be done, and control is assuring that the desired results are obtained. In most organizations, three different types of planning and control processes can be identified: (1) strategic planning, (2) management control, and (3) operational control. Their definitions of these processes are:

---Strategic Planning - Strategic Planning is the process of deciding on the goals of the organization and on the broad strategies that are to be used in attaining these goals.

---Management Control - Management Control is the process by which management assures that the organization carries out

its strategies, through the use of objectives, as effectively and efficiently as is possible.

---Operational Control - Operational Control is the process of assuring that specific tasks, in support of established objectives, are carried out effectively and efficiently.

These three processes blend into one another and do not necessarily have sharp, well defined lines. However, Anthony and Herzlinger (1980) argue that strategic planning sets the guidelines for management control, and management control sets the guidelines for operational control. The complete management function involves an integration of all these processes, and the processes are complementary.

1. Management Control Structure

Management control sets guidelines for operational control. The structure of management control is used to delegate responsibility and assign appropriate authority for the performance of specific duties. The structure of operational control is used to take those specific duties and break them down further into individual tasks such that it allows the manager to apply sufficient control to accomplish each task. A model reflecting the structure of management control as it pertains to MCCRES is provided from the MCCRES Order and is depicted in Figure 3.2. It presents the MCCRES organizational structure for required authority/responsibility of those assigned billets in the performance of their

mission (goal). An example of the structure of operational control is the breaking down of MPS's into separate task, requirements, and conditions, as reflected in Figure 2.1.

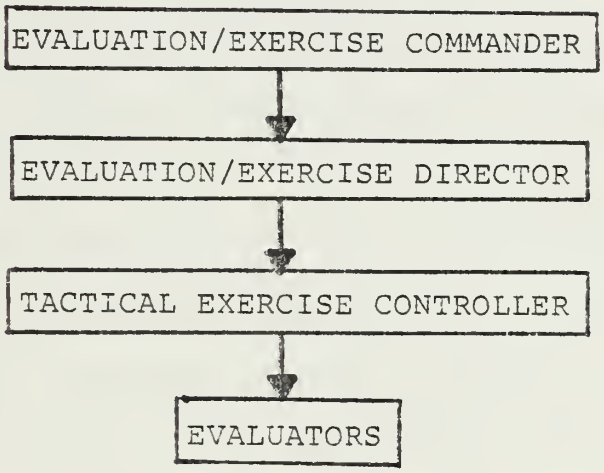

Figure 3.2 MCCRES Management Control Structure Model

The use of the model in Figure 3.2 is an example of the established "top down" flow of authority required by most traditional line/staff organizations to communicate their goals, objectives, and operational requirements from "top management," to their subordinate managers. It is the organization of this successive layering of authority that produces a system for the organization to accomplish its purpose. Management control structure effectively facilitates the delegation of commensurate power/authority for each level of management to insure that proper control is executed at a given level so that objectives and goals are

achieved. The model reflected in Figure 3.2 is discussed further in Chapter IV, in the investigation of how management control structure can effect the proper selection and use of MCCRES Evaluators.

2. Management Control Process

Management control process are those actions that take place to accomplish specific goals that have been established by management.

To model the management control process one must maintain the distinction between structure and process. The structure of the management control system can be described in terms of the units in an organization and the nature of the information that flows among these units. The management control process is what the managers do with this information. [Anthony and Dearden, 1980] To assist in distinguishing the difference between structure and process, a model of management control process is presented in Figure 3.3.

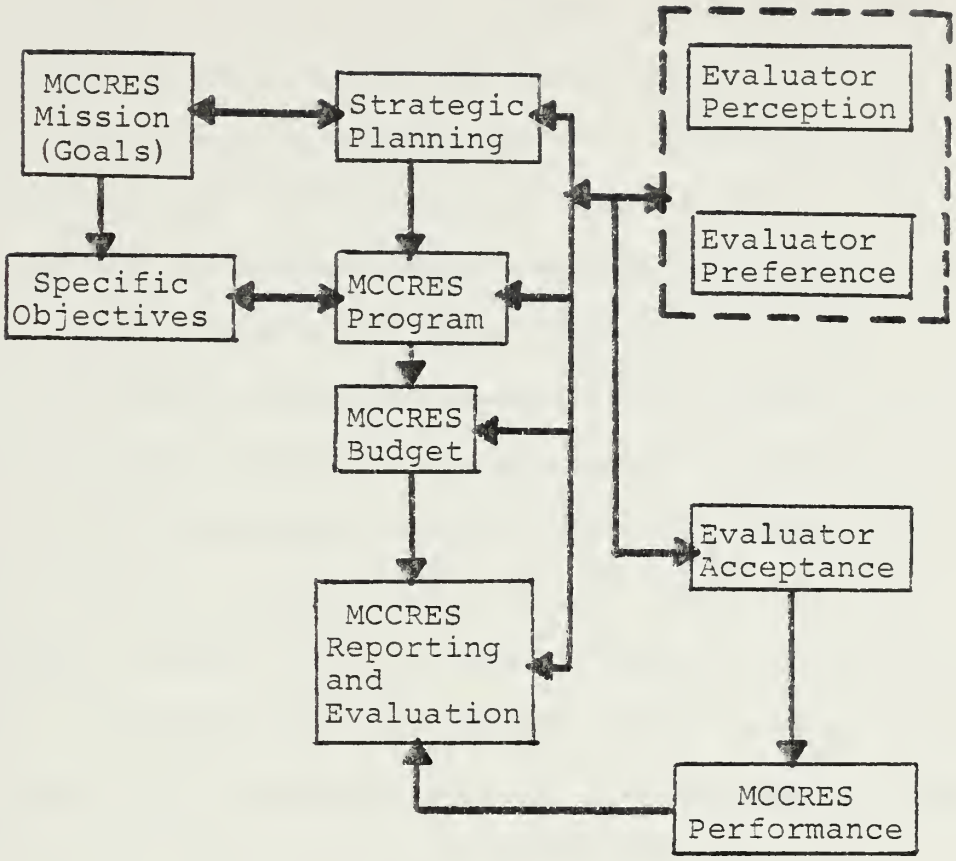

Figure 3.3 MCCRES Management Control Process Model, adapted from Ramanathan (1982, p. 176)

This model (Figure 3.3) reflects the process MCCRES managers use in the achieving of objectives. It does not account for authority and responsibility as does the structure model shown in Figure 3.2; it simply establishes the action required in the interchange, or communication, of information between organizational functional areas. The model depicts the mission of MCCRES, which is developed through strategic planning, and provides a means to monitor desired goals. Specific objectives are then developed that

can be accomplished through a given program. This program is funded through periodic budgeting which allows for the evaluation and reporting of MCCRES results. Evaluator perception, preference, and acceptance has a significant effect directly on the evaluation and reporting phase and, indirectly, on the entire model. Further discussion of this model and how it affects the development of the answer to the question posed in this thesis will be pursued in Chapter IV.

Anthony and Herzlinger (1980) present another view of the management control process which can be imposed on the MCCRES management control process model, Figure 3.3, without distorting it. They describe management control as something that takes place in an organization that already exists, that has goals, and that has decided on broad strategies for achieving these goals. Decisions on these goals and strategies are made in the strategic planning process. Anthony and Herzlinger state that this process is largely unsystematic and informal. The management control system collects information that is useful in strategic planning. But, the management control system, in itself, does not provide this information to managers in any structured, routine fashion during a given strategic planning session. Rather, it must be assembled into a proper format when the need arises, and in the form required for addressing a specific strategic problem or the restructuring of a given organizational goal. This reorganized and newly formatted information can then

assist management in its resolution of a given strategic planning problem.

Anthony and Dearden (1980), and Anthony and Herzlinger (1980), developed the concept of management control process as one that has four principal steps or phases. They acknowledge that there is an informal management control system that consists of information flowing between managers through the use of meetings, conversations, and even facial expressions. But this informal system does not lend itself to one of systematic description.

The other more formal management control system does, however, lend itself to description. It is one that takes information that consists of planned (or estimated) data and actual data on inputs and outputs, and uses this information through reports to determine how close actual inputs/outputs are to meeting the planned inputs/outputs, and then taking action on the basis of this information.

Anthony, Herzlinger, and Dearden go on to discuss the principle steps; (1) Programming, (2) Budgeting, (3) Operating (and measurement), and (4) Reporting and Analysis. They state it is the flow, or process, of these four phases that show how management control "closes the loop" on the business of accomplishing objectives in a more effective and efficient way. To assist in this discussion, Figure 3.4 depicts how each phase follows the other and how the loop is continuous in its process.

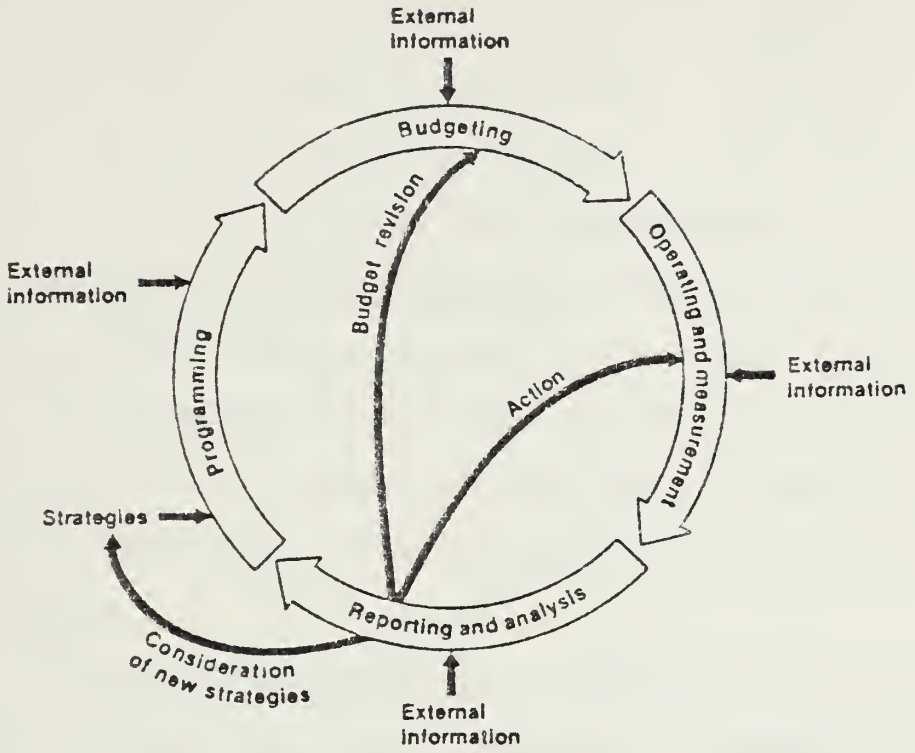

Figure 3.4 Phases of Management Control
[Anthony, Dearden, 1980, and Anthony, Herzlinger, 1980]

3. Phases of Management Control Process

In order to follow the illustration depicted in Figure 3.4, each phase is presented as defined by Anthony, Herzlinger, and Dearden.

---Programming - In the programming phase, decisions are made with respect to the major programs the organization plans to undertake during the coming period. These decisions either are made within the context of the goals

and strategies that have previously been decided upon, or they represent changes in strategy.

---Budgeting - A budget is a plan expressed in quantitative, usually monetary, terms covering a specified period of time. The agreed-upon budget is a bilateral commitment between superiors and their subordinates.

---Operating and Measurement - During the period of actual operations, records are kept of resources actually consumed and outputs actually achieved. The records of resources consumed are structured so that costs are collected both by programs and by subordinate cost/responsibility centers.

---Reporting and Analysis - Accounting information along with a variety of other information is summarized, analyzed, and reported to those who are responsible for knowing what is happening in the organization, and for improving performance. These reports compare planned inputs/outputs with actual inputs/outputs. These reports are used to coordinate and control current activities, evaluate operating performance, and are used as a basis for program evaluation.

E. MANAGEMENT CONTROL SYSTEM

The management control system consists of a structure and a process; that is, what it is and what it does. As has been previously presented, the structure of a management

control system can be described in terms of the units in an organization and the nature of the information that flows among these units. The process is what the managers do with this information. [Anthony and Herzlinger, 1980]

The MCCRES management control structure model, Figure 3.2, is an example of a management control structure that contributes as a subsystem to that of a larger control system, that of the Marine Corps' management control system. Figure 3.3 reflects a management control process that pertains directly to that of MCCRES, but also falls within the category of a contributing control subsystem to that of the Marine Corps' overall management control process. It is the combination of these two elements of the MCCRES control subsystem, and many other separate, mutually contributing subsystems, that provide the overall management control system of the Marine Corps. MCCRES, by providing feedback, contributes to the overall control of the United States Marine Corps.

F. MANAGEMENT CONTROL SYSTEM CHARACTERISTICS

The management control system is a total system comprised of many singular systems. In describing the management control system, its structure and process, there are five characteristics that influence its effectiveness: (1) total system, (2) goal congruence, (3) financial framework, (4) rhythm, and (5) integration. It will be helpful to examine these characteristics to more fully understand management control systems. [Anthony and Herzlinger, 1980]

Anthony and Herzlinger state the characteristic that presents the management control system as a total system is most important. They stress it must operate as such in order to ensure a proper balance between all functioning parts of the operation. In order to maintain this balance, management must have access to information from each of its parts.

The second characteristic is that of goal congruence. Anthony and Herzlinger state that if an organization designs its management control system so that the actions it leads its managers to take are in accordance with the manager's own self-interests, but will also be actions that are in the best interest of the organization, there is goal congruence. This type of design provides mutually supporting goals that are in congruence with one another. That is to say, given goal congruence has been developed, the personal goals of people in the organization are, at least somewhat, consistent with the designed goals of the organization as a whole.

The third characteristic of the management control system is, with rare exception, that it is built around a financial framework. That is, the system is built in a way which facilitates the measuring of all resources in a given standard, usually monetary units. Anthony and Herzlinger point out that money is the only common denominator that provides a heterogeneous metering of the mixture of resources used in the operation of running an organization. Because

of this, a mixture of resources can be combined and compared as elements of input and products of output.

The fourth characteristic of management control is that of rhythm. Anthony and Herzlinger state that management tends to be rhythmic; it follows a definite pattern and time-table, month after month, and year after year. Because of this characteristic there tends to be ample evidence that certain organizational tasks are predictable. [Anthony and Herzlinger, 1980; Anthony and Dearden, 1980] This characteristic should be of considerable help in the business of managing resources so that increased efficiency and effectiveness are realistic goals.

Lastly, Anthony and Herzlinger state that a management control system should be a coordinated, integrated system: all data collected, regardless of its primary purpose, must be reconcilable with one another.

G. EVALUATION

Evaluation is a critical process that takes place in any management control system. This process is one of gathering information required by management on which to base decisions that will keep the organization's objectives in proper balance with that of organizational goals. Evaluation takes data that resides within a system and provides a means for feedback of perspicuous information pertinent to that of management control.

First, a definition for evaluation is offered:

> "Evaluation is the process of determining the value or amount of success in achieving a predetermined objective. It includes at least the following steps: Formulation of the objective, identification of the proper criteria to be used in measuring success, determination and explanation of the degree of success, and recommendations for further program activity." [Suchman, 1967, p. 28]

Stufflebeam, (1971) defines evaluation as "the process of delineating, obtaining, and providing useful information for judging decision alternatives." Wheeler, (1983) points out that there seems to be two common factors to all definitions on evaluation. The first, evaluation is concerned with making a judgement or assessment about something. And secondly, that judgement can be made in terms of some objective or goal. The purpose of evaluation seems not to be that of proving but rather to that of improving. However, evaluation itself is not an end in itself, it is only a tool that can be used to contribute to decisions. [Stufflebeam, 1971] Given this, Wheeler states that one should, "look at evaluation as a judgement of some program with the purpose of contributing to decisions concerning the current attainment of that program's objectives or goals." [Wheeler, 1983]

In order to better understand the evaluation process, one should be acquainted with the characteristics and types or levels of evaluation.

1. Evaluation Characteristics

Wheeler, (1983) provides a review of the current writings on the subject of evaluation characteristics. His

presentation is not intended to be comprehensive, but does provide the reader with an appreciation for what evaluation must do.

Evaluation should:

1. Be conducted in terms of purpose. That is, the objectives must be known. If the objectives are not known, the evaluation effort cannot measure how well they are being attained.

2. Be cooperative. Cooperation at all organizational levels is essential. Without free communication, evaluation results will not reach all parties, hence diluting their usefulness.

3. Be continuous. Evaluation must be an on-going process to accurately track performance and aid planning in light of current objective attainment.

4. Be specific. Generalizations are not as useful as specific information in providing performance information.

5. Provide means and focus to appraise self, practice, and product. The evaluation must provide information of sufficient quality, and specificity, to evaluate not only the program output, but the mechanism of converting inputs to output and the individuals' performance within the mechanism.

6. Be based on uniform and objective methods and standards. Methods and standards which change from one evaluation to the next destroy trust and leave those being evaluated questioning how they should perform their work tasks. [Wheeler, 1983]

2. Evaluation Types

Suchman, (1967) defines the five types or levels of evaluation: (1) effort, (2) adequacy, (3) process, (4) effectiveness, and (5) efficiency. Stufflebeam, et al. (1971) on the other hand defines four types of evaluation: (1) context, (2) input, (3) process, and (4) product. To compare the differences between the two authors and their definitions of evaluation types, or levels, a short discussion of each definition follows.

Effort---Effort is equivalent to input, so an evaluation that uses effort as the measure of performance is measuring input values as indicators of meeting objectives, i.e., how much money was spent or how many man-hours were used. However, this use of inputs or resources may or may not mean that the job is being accomplished.

Effectiveness---If inputs are too far removed from the meeting of organizational objectives, why not look at output? Evaluating outputs could eliminate the problem of input measurements. Although effectiveness is an arbitrary definition it does structure a process for comparison of output against organizational objectives.

Adequacy---Adequacy, or impact, looks at performance in terms of its larger environment. In other words, it is an output-to-need relationship. However, the problem in any impact or adequacy level of evaluation is the problem of identifying the overall need.

Efficiency---Efficiency is another level of evaluation that, in some ways, overcomes the shortcomings of the previous levels. Efficiency is probably the most familiar level of evaluation. Efficiency relates output to input. In terms of efficiency, things are better if more can be done with the same amount of input or the same output can be generated with less input.

Process---Here process is defined as the relationship, or function, between input and output. Process

evaluation attempts to focus on the mechanism by which effort is translated into output. In other words, output is viewed as a function of effort. The function assumes an understanding of how the organization operates and an ability to predict what the output of the organization will be for a particular input. It is this view of process evaluation that allows a manager to observe the entire transformation, starting with raw input and ending with the output necessary for meeting organizational goals.

Context Evaluation---Context evaluation is used in the process of the planning decision in determining the goals and objectives. Context evaluation aids the planning decision in the diagnosing of problems and identifying objectives. There are two types of context evaluation: contingency and congruence. Contingency evaluation is used to look across the boundary of the system of interest and ask what-if kinds of questions. Congruency evaluation takes the environment and resources availability as given and then asks questions about how a particular goal or objective will be met.

Input Evaluation---Once the goals are decided upon, then input evaluation must be accomplished. Input evaluation is useful in determining the structuring of decisions for project design. Input evaluation is concerned with the question of resource availability, i.e., how should the process be structured to utilize the resources?

Process Evaluation---Once the design is decided, process evaluation is conducted. Process evaluation is used in implementing and controlling project operations. As the name implies, process evaluation is the analysis of the process as developed so that procedural problems can be identified. Changes in the process can then be made. Additionally, process evaluation maintains a record of what is happening.

Product Evaluation---Product evaluation focuses upon output. Product evaluation is used in recycling decisions to judge and react to attainments. Product evaluation can be viewed as the decision to adjust the system in post-action control. [Suchman, 1967; Stufflebeam, 1971; Euske, in press]

Each of the two presentations of types, or categories of evaluation, have similarities but are approached from different perspectives. Stufflebeam et al. is concerned with when to evaluate, and views it occurring at different stages. Suchman is concerned with what to evaluate at a given time. [Euske, in press] However, it is possible to effectively combine these two concepts on evaluation. This will be further discussed in Chapter IV.

H. EVALUATORS

Evaluators gather a type of information that is the heart of management control--measurement indicators. How well evaluators do this is critical to the proper functioning

of the feedback system that provides information required by any control system. [Wheeler, 1983] It is this information which is collected and in turn becomes input to that of a larger system: The Management Control System. If this is done poorly, then a predictable result is attained. It is described by that tired, but true cliche, "garbage in, garbage out."

1. Relationship to the System

If the input/process/output model, as reflected in Figure 3.1, is modified to show a "closed loop" model with a feedback process added and with evaluators contributing information to that feedback process, then one can see how critical evaluators are to the proper functioning of the overall system. Figure 3.5 provides a model for this discussion.

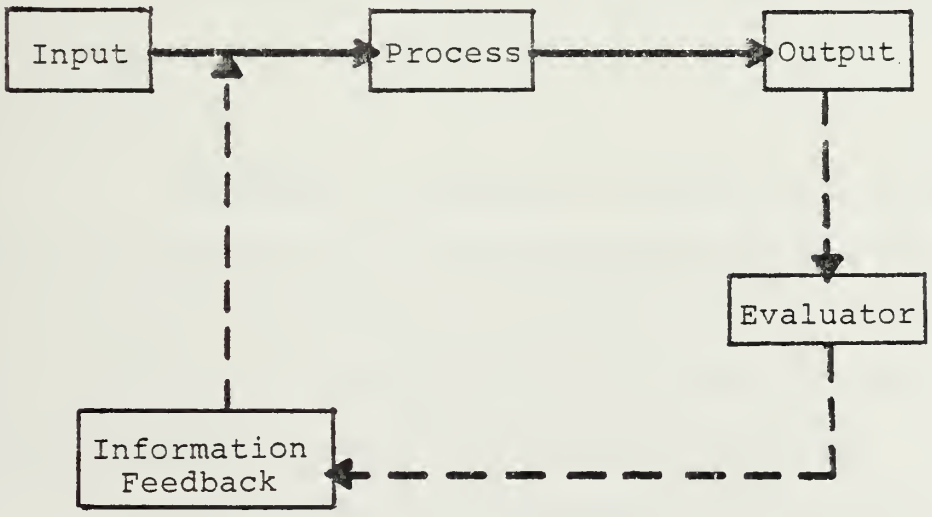

Figure 3.5 Evaluator Influence on Information Feedback

Evaluation systems are the result of much concern and of special design to insure, to the best extent possible, that the measurement indicators are: (1) valid, (2) objective, and (3) reliable. [Weiss, 1972; Ivancevich, 1977] Evaluators must maintain sufficient distance, or autonomy, from what they are evaluating to be effective. Wheeler, (1983) in his discussion on evaluators and their relationship with objectivity, reliability, and validity, provides reasonable definitions that are a collage from assorted readings on the subject. Each definition is listed below.

---Objectivity - Objectivity, in the context of evaluation, is the ability to observe something only as it physically exists without the inclusion of personal feelings about the object.

---Reliability - Reliability is based on the ability to replicate observations. If a particular observation of an objective can be replicated, that observation is assumed to be reliable.

---Validity - Validity is critical to evaluation. If an observation does not accurately reflect the qualities of an object one wishes to measure, a "true" evaluation of the object may be impossible. It is the question of, how close does the observation represent reality?

If evaluators are conscious of, and strive to maintain a proper perspective on the above listed elements of evaluation, they will be closer to the epicenter of what evaluation should accomplish.

The issue of the desired degree of autonomy for evaluators must be considered when establishing the source from which potential evaluators will be sought. Euske, (in press) points out the advantages and disadvantages of evaluators selected from within an organization versus those who are external to it. Each has their strong and weak points. Evaluators who come into an organization may be more objective and possess a higher degree of autonomy, but they may fight a certain amount of animosity from those within the organization. Conversely, evaluators who come from within an organization may be less objective because of their lack of autonomy with the organization. [Herbert, 1979] Euske's conclusion is that a solution may be that of a combination of the two types of evaluators.

As a conclusion to this section, the observation of an ideal evaluator is offered by Wheeler, (1983) and defined by Barrett, "....the ideal evaluator who observes and evaluates what is important and reports his judgement without bias or appreciable error does not exist, or if he does, we don't know how to separate him from his less effective colleagues."

2. Evaluator Error

The degree of evaluator error that takes place during an evaluation can be the greatest single adverse contribution to a well designed evaluation system which has provided for valid, objective, and reliable measurements.

Cummings and Schwab (1973), distinguish two main groups of evaluator errors. They are (1) variable and (2) constant errors.

The above authors contend that the first main group, variable error, is the result of evaluator disagreement from either (1) disagreement between evaluators, or (2) a single evaluator, over time.

The first, disagreement between evaluators, can be reduced by: (1) reduction or elimination of subjectivity in measurement instruments, and (2) ensuring evaluator familiarity with the job being evaluated. The second, that of single evaluator error over time, results from disagreements in evaluations made by one evaluator at different points in time. It is the inconsistent application of a given standard that produces such aberration to measurement information. A possible method of reducing disagreements over time is the testing of potential evaluators and choosing those who demonstrate little of this type error. An example of this testing method would be to present a potential evaluator with a given scenario and require him to grade it several times over a given period. The individual who consistently applies a determined standard would be acceptable for selection as an evaluator.

The second main group, that of constant error, is somewhat different from variable error. While variable errors create differences between evaluations, constant

errors tend to cause spurious similarities. Constant error takes three forms: (1) halo effect, (2) central tendency, and (3) leniency. [Wheeler, 1983] Their definitions are:

---Halo error - Halo error occurs when the evaluator fails to differentiate between individual items or dimensions in his evaluation, but evaluates on the basis of his overall impression.

---Central tendency - Central tendency is the tendency for evaluators to rate all dimensions of an object near the middle of the evaluation scale, avoiding the extremes.

---Leniency - This error is committed when an evaluator tends to rate all objects too high. The "easy grader" consistently delivers inflated rating marks. The opposite error, that of rating all objects too low is called strictness.

To help in the correction of constant error, evaluator training is a useful technique. Through training, evaluators are made to become aware of these shortcomings and shown methods to help overcome them.

The business of evaluator error and its effect on an evaluation system is at the heart of this thesis. Therefore, Chapter IV will look at this in detail.

I. MEASUREMENT

Measurement is a critical element of any management control system. It is this element that allows evaluators to

do what they must do--evaluate performance, effectiveness and efficiency. If a system does not allow for providing good measurement parameters it effectively negates all sincere efforts on the part of any evaluator.

Measurement is used to quantify the feedback information that is used in determining the efficiency or effectiveness of a system. Euske (in press) argues that measurement is a process required to obtain the information needed for carrying out management control functions: planning, control, and evaluation. The quantitative results that are used in evaluation are the result of some measurement process. [Euske, in press]

Wheeler, (1983) in his discussion on measurement, provides Figure 3.6 to illustrate measurement and its lack of complete correlation between that of a given construct to be measured, and the measurement. A construct is defined, for this discussion, as an aggregation of parts or elements that form a particular entity or system.

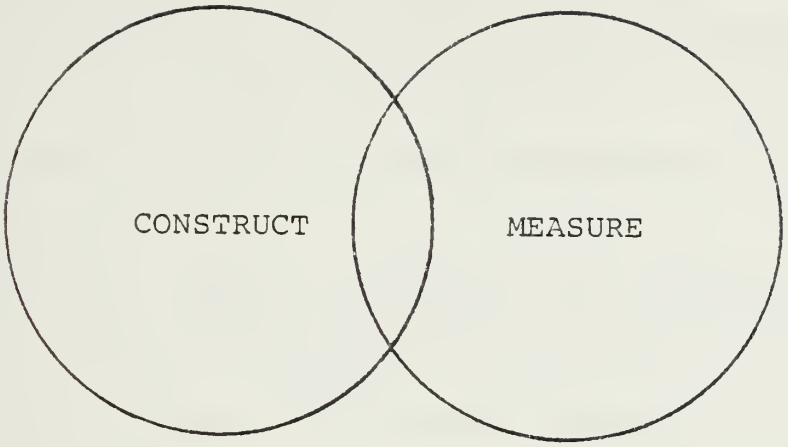

Figure 3.6 Measurement Deficiency or Contamination, Adapted from Klimoski (1974)

Wheeler states that the deficiency occurs when the measure fails to take into account all of the factors present in the construct. For example, a measure of a data processing department's performance which accounted for quantity of output, but neglected quality and timeliness, would probably be considered deficient. He goes on to define measurement contamination, as contrasted to measurement deficiency. Measurement contamination occurs when the measure takes into account factors which fall outside the construct. He goes on to illustrate, "if the measure of the data processing department's performance includes items such as corporate sales or top management's perceptions of the department, the measure is likely to be contaminated." [1983, p. 29] It is the combination of measurement deficiency and contamination that can adversely affect the measure of validity. [Wheeler, 1983]

J. SUMMARY

The purpose of this chapter was to give the reader sufficient knowledge and an appreciation of Management Control Systems. It is hoped this foundation can be used for the later presentation of data and its analysis to be presented in Chapter IV.

First, the concept of control was presented as it relates to that of management and organizational structure and process. Next, the focus was narrowed to that of management control. The concept of management control having both a structure and process was presented through the use of applicable models.

An examination of Management Control Systems and its characteristics was presented to reflect how it contributes as an integral part of how managers control their organization's functions so that strategic plans are achieved. It was demonstrated how this could be accomplished through the use of specific objectives that would contribute to organizational goals.

Next, a review of evaluation and its role in the feedback process of management control was discussed. It was pointed out that evaluation also presents definite characteristics and distinctive types. A review of measurement and its direct and influential contribution to evaluation was also discussed.

Lastly, the use of evaluators was discussed. Where evaluators fit into the overall scheme of a management control system, how evaluators make errors, and how a properly designed system might be able to correct some of those errors was presented. The particular format used in the presentation of this chapter was used because it is the focus on evaluators, their selection, and their effectiveness that becomes the subject of Chapter IV.

IV. THREE CASE STUDIES

A. GENERAL

The purpose of this chapter is to present and examine data obtained from interviews with individuals who have participated as an Evaluator, Senior Evaluator, Tactical Exercise Controller, or Evaluation/Exercise Director of recent MCCRES evaluations.

The relationship between the data collected and that of accepted management control theory provides the basis for the development of a more effective and efficient model that provides for the selection of MCCRES evaluators. The model is designed to provide the unit commander a means of using limited resources in a more efficient and effective way. This model is developed and discussed in Chapter V, "A Model."

This chapter is presented in two parts. The first part is the presentation and discussion of data collected on each of three case studies. The second part of the chapter is an analysis of those case studies. This analysis is used to compare the case study data with those elements of management control, as discussed in Chapter III; structure and process. The purpose of the analysis is to determine if there are any management control features found in the collected data that can contribute to the improvement of the

commander's ability to select more effective evaluators. If there are, the resulting consequences can be used to change the existing MCCRES model to accommodate the new structure or process.

B. PRESENTATION OF CASES

MCCRES evaluator data was gathered over a two month period. The observations of portions of MCCRES's and interviews took place at three separate major commands, each with a distinctly different combat mission: (1) A Fixed Wing Squadron (air), (2) An Infantry Battalion (ground), and (3) A Rotary Wing Squadron (air). This was done by design to provide as comprehensive a cross section of interviews as possible with a limit of three case studies.

Those individuals interviewed were asked four general questions that provided areas of focus for discussion. Every evaluator from each of the three evaluation teams was interviewed separately such that his response was autonomous and not influenced by those of his peers. Those questions were:

----What are the elements that make an effective evaluator?

----How can selection of potential evaluators best be accomplished?

----What can the Evaluation/Exercise Controller or Director do to make selected evaluators more effective?

----Are there any general techniques developed and used by evaluators that make for more effective recording of evaluation results?

1. Case: Marine Corps Squadron (FIXED WING)

A MCCRES was conducted on an A-4 jet aircraft squadron in August 1983. It was provided for and regulated by the MCCRES Order, local directives, and a Letter of Instruction (LOI) published specifically for the MCCRES evaluation.

The management control structure established for the execution of the MCCRES evaluation was identical to that of Figure 3.2: the Commanding General, Fleet Marine Force, was the Evaluation/Exercise Commander; Commanding General, Wing was the Evaluation/Exercise Director. The Tactical Exercise Controller and Senior Evaluator were, however, one in the same. The evaluators met the requirements of appropriate rank, "recent experience," and "successful" tour in the required Military Occupational Speciality (MOS). In fact, the professional characteristics of the evaluators were identical to that of the key individuals of the unit being evaluated.

There was no school held for MCCRES evaluators, only a fifteen minute evaluator "inbrief." This was felt justified by the Senior Evaluator (who was also the Tactical Exercise Controller), since the evaluators being used were either Weapons Training Instructor (WTI) qualified or had been MCCRES evaluators in the recent past.

The management control process was accommodated through the selection of the MPS's, their observation, grading, and the passing of this information by the evaluators to the Senior Evaluator. A list of MCCRES Mission Performance Standards (MPS's) used in the A-4 Squadron MCCRES evaluation is presented below:

a. Briefing/Debriefing
b. Aerial Refueling
c. Coordinated Strike
d. Rescap
e. Squadron Disaster Plan
f. Aircrew Knowledge Exams
g. Aircraft Surge Capabilities
h. Close Air Support
i. Deep Air Support
j. Nuclear Weapons Delivery
k. Advanced Weapons
l. Defensive Tactics
m. Armed Helo Escort

The evaluation feedback process was provided for in the published LOI and included those levels of management critical to the management control structure; (1) Senior Evaluator, (2) Tactical Exercise Controller, (3) Exercise Director, and (4) Exercise Commander. These levels of management are depicted in Figures 3.1, "Control and Feedback," and 3.2, "MCCRES Management Control Structure Model," and

discussed in Chapter III. Also, the LOI met the five and ten day report requirements, as stipulated in the MCCRES order and discussed in Chapter II. This provided the required feedback information as established in the management control process, Figure 3.3, "MCCRES Management Control Process Model."

During the conduct of the MCCRES, the selection of participants, either individual or aircrew, in the squadron was not random nor did 100 percent of the squadron participate. Only those individuals and aircrews declared combat ready through another reporting system (UNITREP) were evaluated.

The essential data of the interview information gathered from the individual MCCRES evaluators, based on the four previous questions, is presented below.

(1) All evaluators expressed strong opinions that both overall experience and a recent "successful" tour flying the same type aircraft as the evaluated Squadron was paramount. It was stated that if these requirements were met for evaluators, the execution of more effective grading of "technical" tasks was possible.

Overall experience was important in that it provided credibility to the evaluator. Because the tactics of air war have been undergoing such radical change in recent years, <u>all</u> evaluators felt strongly about the need for potential evaluators to have served in a flying

billet very recently and applied these new tactics in the same aircraft as found in the unit receiving the MCCRES.

(2) There was a general conclusion by all evaluators that, because of the level of experience desired, perhaps only Majors and Lieutenant Colonels should be used as MCCRES evaluators.

(3) Because the "community" of pilots for a given type of aircraft is so small in the Marine Corps, the selection of potential evaluators is critical in order to negate the halo effect, central tendency effect, leniency effect, and maintain sufficient autonomy. The evaluators felt that selection should be made from units that are at least twice removed from the unit receiving the MCCRES. This would require one Air Wing to request assistance from another Wing in providing evaluators. All evaluators felt this would greatly enhance the autonomy of evaluators and their objectivity in grading a given MPS.

(4) It was their stated opinion that many pilots meet requirements that have been established by the MCCRES Order, but lack the ability to objectively grade tasks. This can be caused by many evaluator biases [Wheeler, 1983] and is discussed further in the analysis portion of this chapter.

(5) All individuals interviewed stated that ideally a permanent MCCRES Staff from Headquarters Marine Corps would be most effective in conducting all MCCRES evaluations throughout the Corps. However, realizing the manpower constraints, they stipulated a reasonable alternative would be a permanent MCCRES staff "core" located at each major command. This would provide better continuity in the required judgements used in the assignment of a grade to a given MPS as well as the overall unit grade. The interviewed evaluators stated this "core" could then be augmented by individuals from units that were twice removed from the unit receiving the MCCRES.

(6) Senior Evaluators and Tactical Exercise Controllers that were interviewed stated that the authority for selection of high quality evaluators must be authorized at the Exercise/Evaluation Director level, with total support in this effort actively demonstrated by the Exercise/Evaluation Commander.

(7) Evaluators pointed out that there are techniques used during the actual observation of MPS tasks and the required concurrent marking of the grade of these tasks that can be counter productive. They stated that in many instances the evaluator can mark and observe concurrently because the tempo of operations is such that it allows for this technique to be used. However, in an operation that has a faster tempo, (i.e., coordinated

strike, close air support, nuclear weapons delivery, and defensive tactics, of listed MPS's) simultaneous observation and recording is impossible. In these instances the evaluator must observe an event and upon conclusion quickly mark an assigned grade on his checklist. Each evaluator agreed that effectiveness is compromised to some degree by not being able to observe and mark concurrently. While the evaluators are recording this grade some new event is ongoing and the evaluators cannot give it their full attention. To compensate in minimizing their effectiveness in this regard they try to develop their own way of determining how much, in a given observation of an MPS task, they can realistically retain before it must be recorded on the checklist. It was pointed out by the evaluators that an effective technique such as color coding sections of work sheets by grouping requirements (so each group stands out because of its color) for a given task as a single observation for marking may be something that could be incorporated into inbrief sessions or a pre-MCCRES school.

(8) All evaluators pointed out there is no pre-MCCRES testing of potential evaluators as to their knowledge in a particular Military Occupational Speciality (MOS). However, they stated there is no need because their particular "community" is small enough that each pilot's knowledge is known through his reputation as a pilot.

(9) Evaluators stated they would like to be briefed on trends of past MCCRES discrepancies found in similar units and also any possible evaluator bias in similar conditions. This would give them a "heads up" in a given area and they could be aware of those possible discrepancies or biases during the MCCRES.

(10) There is a split in stated opinion by evaluators as to which technique is more effective in determining a "true" grade for a given MPS task. In the first technique the evaluator provides immediate feedback to the unit on observed discrepancies and, if not corrected during subsequent observations of the same MPS task, he marks the task as a fail grade. The second technique is to not provide the initial warning and simply grade the event as observed.

2. Case: Marine Corps Infantry Battalion

A MCCRES was conducted on an infantry battalion in September 1983. It was provided for and regulated by the MCCRES Order, local directives, and a Letter of Instruction (LOI) published specifically for the MCCRES evaluation.

The management control structure established for the execution of the MCCRES evaluation was identical to that of Figure 3.2: the Commanding General, Fleet Marine Force, was the Evaluation/Exercise Commander; Commanding General, Division, however, passed the authority and responsibility of the Evaluation/Exercise Director to the Regimental Commander.

The Tactical Exercise Controller and Senior Evaluator was the Regimental Executive Officer. Ninety percent of selected evaluators were of appropriate rank and experience. They were, however, only once removed (that is, within the same Regiment) from the Battalion receiving the MCCRES. Two evaluators of eight interviewed had an MOS that was not similar to those found in the unit receiving the MCCRES.

There was no school held for evaluators and no explanation was given as to why there was none. Six of the eight evaluators interviewed had no previous experience as MCCRES evaluators.

The management control process was provided through the selection of the MPS's, their observation, grading, and the transfer of this information by the evaluators to the Senior Evaluator. A list of the MCCRES Mission Performance Standards (MPS) used in the MCCRES evaluation is presented below.

a. Continuing Actions by Marines
b. Command and Control
c. Fire Support Coordination
d. Heliborne Assault
e. Movement to Contact
f. Attack
g. Defense
h. Retrograde Operations
i. Mechanized Operations
j. Amphibious Raid

The process to provide feedback of evaluation information was outlined in the LOI and involved those levels of the management control structure, as established in Figure 3.2, "MCCRES Management Control Structure Model," which lists those individuals that influence the assignment of an assessment to a given MPS.

The main issues of the information gathered in individual interviews with evaluators are listed below.

(1) All evaluators stated they felt very strongly that overall experience and a recent "successful" tour in the infantry was critical. However, when asked to weigh the two, overall experience was listed as more important.

(2) It was generally felt that evaluators functioned more effectively when they were the same rank as that of the person being evaluated. Therefore, Captains should be used to evaluate company commanders, Majors to evaluate functions of battalion operations, Lieutenant Colonel to be used as a senior evaluator and counterpart to the battalion commander.

(3) As a group, these evaluators stated they were particularly sensitive to autonomy and its need. Every evaluator stated there was a significant degradation of evaluator performance if the evaluators were not from units twice removed. It was not accomplished in this particular MCCRES and all evaluators felt a kinship to

those individuals being evaluated and they said this ultimately was reflected in their marking of MPS's.

(4) Evaluators did not feel the need for a permanent MCCRES evaluation staff at some higher headquarters. They all stated there was a significant potential learning experience that could benefit the evaluator. This experience potentially could assist the current evaluators in future MCCRES evaluations in which "they" would be the individuals receiving the evaluation. The experience gained as evaluators would allow them to be more effective in preparing for "their" MCCRES.

(5) Evaluators stated that command emphasis and interest in the MCCRES evaluation and the selection of quality evaluators was critical. The evaluators perceived only general interest by higher headquarters for this particular MCCRES. As stated by one evaluator, "everybody hates getting tagged to be a MCCRES evaluator.....there is no prestige associated with the job."

(6) Evaluators stated that a school conducted on evaluation techniques, scenario of the MCCRES, and the MPS's used, would be helpful toward increasing their effectiveness. They felt however, there would be no need to teach tactics, given the potential evaluators were "quality" selectees.

One teaching technique discussed was that of using a given Command Post Exercise (CPX) with a

developed scenario to let potential evaluators practice grading a given MPS. The CPX would be under the strict supervision of the TEC and Senior Evaluator.

(7) All evaluators indicated they employed the technique of providing immediate feedback of observed discrepancies. If the discrepancies were not corrected during subsequent observations of the same MPS task/requirement the evaluator then marked the task/requirement as a failure. They stated there are two ways of looking at a MCCRES evaluation; (1) a reporting process, or (2) a learning experience. Each evaluator interviewed stated he felt it was more beneficial to use the "learning experience" philosophy and ignore the "report process," as initially described in the first case.

3. Case: Marine Corps Squadron (ROTARY WING)

A MCCRES was conducted on an helicopter squadron in September 1983. It was provided for and regulated by the MCCRES Order, local directives, and the Letter of Instruction (LOI) published specifically for the MCCRES evaluation.

The management control structure established for the execution of the MCCRES was identical to that of Figure 3.2: the Commanding General, Fleet Marine Force, was the Evaluation/Exercise Commander; Commanding General, Wing was the Evaluation/Exercise Director. The TEC and Senior Evaluator were the same individual. Evaluators were of the appropriate rank and experience as required by the MCCRES Order.

There was no school held for evaluators, only a short "inbrief" to hand out MPS requirements, assign evaluators and discuss the conduct of the MCCRES scenario. All evaluators had previous experience as MCCRES evaluators, one as many as fifteen times.

The management control process was provided through the selection of the MPS's, their observation, grading, and the reporting of this data by the evaluators to the Senior Evaluator. A list of MCCRES Mission Performance Standards (MPS) used in the MCCRES evaluation is presented below.

All Helicopters

a. Continuing Actions
b. Command and Control
c. Aircrew Knowledge Exam
d. Disaster Plan
e. Electronic Warfare

Light Helicopter

a. Heliborne Assault
b. Command and Control
c. Visual Reconnaisance Operations
d. Combat Resupply
e. Medical Evacuation
f. Liaison Carrier Operations
g. Reconnaisance Patrol and Reaction Force Operations
h. Night Operations
i. NBC Operations

Attack Helicopter

a. Heliborne Assault

b. Assault Support Helo Support

c. Convoy Escort

d. Medical Evacuation Escort

e. Reconnaisance Patrol and Reaction Force Operations

f. Close In Fire Support and Airborne Fire Support

g. Visual Reconnaisance Operations

h. Night Operations

The process established to prcvide feedback of evaluation data was outlined in the LOI and involved those levels of management control, as established in Figure 3.2, "MCCRES Management Control Structure Model," that influenced the assignment of an assessment to a given MPS.

The main points gathered through interviews of individual evaluators are listed below.

(1) Experience. The views of the interviewed evaluators were essentially the same as discussed in the other two cases. The summarized opinion of the evaluators was that experience is a function of rank and is the most critical element an evaluator must have to be effective.

(2) Rank. As in the previous two cases, the evaluators felt rank to be the second most important criteria because of its close relationship to experience.

(3) Autonomy, as it relates to evaluators and their effectiveness, was clearly stated by evaluators as being third in importance. This element's contribution to evaluator effectiveness is fully discussed in the first case.

(4) Interviewed evaluators did not express any opinion concerning the benefits of either a permanent or augmented MCCRES evaluation staff.

(5) Interviewed evaluators felt strongly about the need for command interest and support to be actively demonstrated to all concerned within the MCCRES evaluation process.

(6) A restatement of comment (7) in the first case on evaluator developed techniques for marking fast tempo operations, i.e., grouping and color coding given task/requirements on work sheets such that the marking of a grade, resulting from an observation, is logically broken down for more efficient marking and resulting evaluator effectiveness.

(7) There was no evaluator school given before this MCCRES was conducted. Evaluators felt this would be beneficial if techniques for evaluator effectiveness were stressed in a class presentation and then those effectiveness principles were tested.

(8) The evaluators perceived being effective through two distinct approaches. In the first approach the

evaluator simply "reports" on his observations as they occur. In the second approach, the entire process of preparation and then the conduct of the MCCRES by the evaluated unit is looked on as "a learning experience." This approach is facilitated through evaluators providing informal feedback of mission effectiveness to the unit as the MCCRES scenario progresses. In this latter approach, if proper corrective action is not taken after evaluator feedback is initially given, the unit is adversely graded for that MPS event.

(9) Interviewed evaluators stated that much of the overall MCCRES effectiveness depends on the TEC and his ability to properly develop a scenario that is both challenging and realistic to a particular unit's mission and/or location, and yet not repetitive relative to the units last MCCRES. The basic theme is that any unit can be graded as "combat ready" if the scenario used for evaluation is the same "canned package" the unit has seen in past MCCRES evaluations. When this happens, the interviewed evaluators said that they have a tendency to lose objectivity and mark a given MPS as it has been marked in the past with the same unit, thus, severely degrading evaluator effectiveness.

C. ANALYSIS OF CASES

The purpose of the analysis is to determine if comments made by interviewed MCCRES evaluators are valid for

incorporation into either the structure or process of the management control system used in the selection and use of MCCRES evaluators. If incorporation is accomplished, it must be done in a way so that it will enhance the overall effectiveness of the current MCCRES system through proper application of the principles of management control theory.

For the purpose of this analysis only a comment that was initiated and made by at least one member from each separate MCCRES evaluation team is considered in the analysis. In other words, a valid comment must have been initiated and discussed on at least three separate occasions by one or more members from each of the three MCCRES evaluator teams that were interviewed.

Comments were then weighted and are listed below in order of importance, with 1 indicating "very important" and 8 indicating "important." The weighting is based on the evaluation of: (1) how many times the issue was brought up, (2) how strongly an individual voiced his opinion on the subject, and (3) who brought up the issue (i.e., an experienced evaluator's strong support of an issue was weighted more heavily, relative to his experience, than a less experienced evaluator who also felt strongly about some other issue). Evaluator comments to be considered are listed below.

Command Interest and Support (1). There must be an active demonstration of total support by both the Evaluation Commander and the Evaluation Director.

Evaluator Rank/Experience (2). Rank and experience seem to be a function of one another, they enhance evaluator effectiveness or at least apparently provide credibility to those being evaluated.

Evaluator Autonomy (3). Evaluators must have autonomy to objectively observe MCCRES MPS events and effectively mark them.

Evaluator School (4). A school provided before the MCCRES is critical. Subjects such as evaluator effectiveness, evaluator perceptions, MCCRES scenario to be used, review of MPS's to be used, techniques to mark fast tempo operations, and opportunity to practice observations and do marking should be considered.

Valid Scenario (5). An effective TEC must develop a realistic and challenging MCCRES scenario. This scenario must be based on the unit's mission, location, and its probable deployable geographical area.

Determination by Exercise Director as to Purpose, or Tone of Evaluation (6). The Exercise Director must decide, publish, and then enforce whether the evaluation is being conducted as an opportunity to report on the unit or an opportunity to provide a learning experience for the unit receiving the MCCRES.

Past Evaluation Trends (7). Either during the evaluator school or the inbrief, evaluators should be given a list of reoccurring MPS discrepancies that similar units have

made during recent MCCRES evaluations. This list would allow the evaluators to focus on those discrepancies, knowing there is a high probability of unit readiness problems in these identified areas.

External Evaluator to MCCRES (8). An evaluator to evaluate the evaluators, provided from Headquarters, Fleet Marine Force could potentially provide impetus at the levels of planning, selection, schooling, and conduct of a MCCRES, for a more effective overall MCCRES system. This evaluator would report his findings directly to the Exercise/Evaluation Commander.

1. Management Control: Structure Enhancement of MCCRES

As discussed in Chapter III, management control structure identifies the authority and responsibility of management to accomplish tasks that contribute to achievement of organizational goals. Command Interest and Support (1), Evaluator Rank/Experience (2), and External Evaluator to MCCRES (8), discussed in the previous section, contribute directly to the enhancement of the MCCRES structure as it relates to management control.

The first, and perhaps the most important, Command Interest and Support (1), is simply a restatement or reemphasis of the existing requirement to correctly execute those responsibilities established through the use of assigned authority as discussed and depicted in Figure 3.2, "MCCRES Management Control Structure Model."

The second, Evaluator Rank/Experience (2), is critical in providing the objectivity required for meeting the goal of achieving a "true" marking for a given MPS observation. If the appropriate maturity of an evaluator (based to some degree on his rank) and sufficient technical knowledge (based on his experience) is present, the achievement of this goal is more closely realized.

The last contribution to structure, External Evaluator to MCCRES (8), identifies the need to establish a modification to the existing structure depicted in Figure 3.2 such that an autonomous evaluation of the overall MCCRES process itself is possible, regardless of the unit being evaluated. It is this new element that can be added to the structure that will provide for a more objective and comprehensive feedback of information concerning the effectiveness of the Exercise/Evaluation Director, TEC, and evaluators in their contribution to the overall evaluation system. This information would be reported directly to the Exercise/ Evaluation Commander by the External Evaluator.

The effect of these three factors on the structure model itself will be discussed in Chapter V; "A Model," when the model, as depicted in Figure 3.2, is reviewed for reorganization to accommodate this analysis.

2. Management Control: Process Enhancement of MCCRES

As discussed in Chapter III, the management control process provides for those actions, or the transferring of

information and its use, that take place to accomplish those goals set by management. Command Interest and Support (1), Evaluator Rank/Experience (2), Evaluator Autonomy (3), Evaluator School (4), Valid Scenario (5), Determination by Exercise Director as to Purpose, or Tone of Evaluation (6), and Past Evaluation Trends (7), all factors discussed previously, contribute directly to the enhancement of the MCCRES process as it relates to management control as depicted in Figure 3.3, "MCCRES Management Control Process Model."

The first, and perhaps most important, Command Interest and Support (1), contributes to the structure of MCCRES but it also significantly influences or emphasizes the exchange of information. If command interest and support is emphasized, the quality of data collected and reported will be considerably upgraded. For this reason it is included in the process review of MCCRES.

The second, Evaluator Rank/Experience (2), influences the effectiveness of an evaluator in the performance of his duty as an observer and marker of what a unit accomplished. Experience, as a function of rank, helps to create the credibility needed by the evaluator so that he spends less time justifying his marking and more time concentrating on the actual, accurate observation of MPS events as they occur. This process, in aggregate, contributes to a higher quality of data gathered and a more efficient system.

The third, Evaluator Autonomy (3), directly influences the performance of an evaluator more than any other single factor so state interviewed evaluators. Because of this, the evaluators strongly recommend that there is a need for the "twice removed" rule. Evaluators state that if this rule is applied it allows them to be as objective in their marking of a given MPS as is possible. If this is not done, the issue of the "halo effect," as discussed by Wheeler (1983) becomes paramount and there is a significant degredation of objectivity in marking an MPS.

The fourth, Evaluator School (4), serves to make the potential evaluator aware of evaluator bias, more efficient and effective marking techniques, and the opportunity to practice evaluator techniques and evaluation principles. This school could provide a means for the collected evaluation information that is exchanged between different levels of management to be viewed as creditable data for use by those who ultimately assign the overall MCCRES grade.

The fifth, Valid Scenario (5), provides for a more realistic, creditable scenario and because of this motivates all involved in the MCCRES to support the overall evaluation process and to contribute a greater degree of support to the accomplishment of its purpose: the measurement of a unit's readiness.

The sixth, Determination by the Exercise Director as to Purpose of MCCRES (6), determines how the evaluators

will approach the marking of the tested unit in its performance of accomplishing a given MPS. It is the "tone" of how the Exercise Director feels a MCCRES should be viewed. Whether his view is that of MCCRES as a "report" or a "learning experience," he must effectively convey this view to his TEC, Senior Evaluator, and Evaluators. The process for each view is significantly different and provides a very different type of end product.

The seventh, Past Evaluation Trends (7), is an opportunity for the evaluators to concentrate on certain information, and if done correctly provide a high probability of greater marginal return on available evaluator time allocated for a given MCCRES.

The influence of these seven factors on the process model itself will be discussed in Chapter V; "A Model," when the model, as depicted in Figure 3.3, is reviewed for reorganization as a result of this analysis.

D. SUMMARY

The interviews with individuals from each MCCRES evaluation team from three different major commands resulted in a set of issues and improvements. The issues and improvements that, in the evaluator's opinion, could increase the effectiveness of MCCRES, but yet be common to all Marine Corps commands, was discussed in detail. These eight factors were then weighted and ranked, based on gathered information from

interviewed evaluators and applied criteria established for measuring evaluator's perception of importance. The factors were then related to one of the two elements of management control; structure or process.

It was determined in the analysis that two of the eight factors contributed to both the structure and process models of management control. To summarize which model each item of discussion is related to, Figure 4.1 is provided.

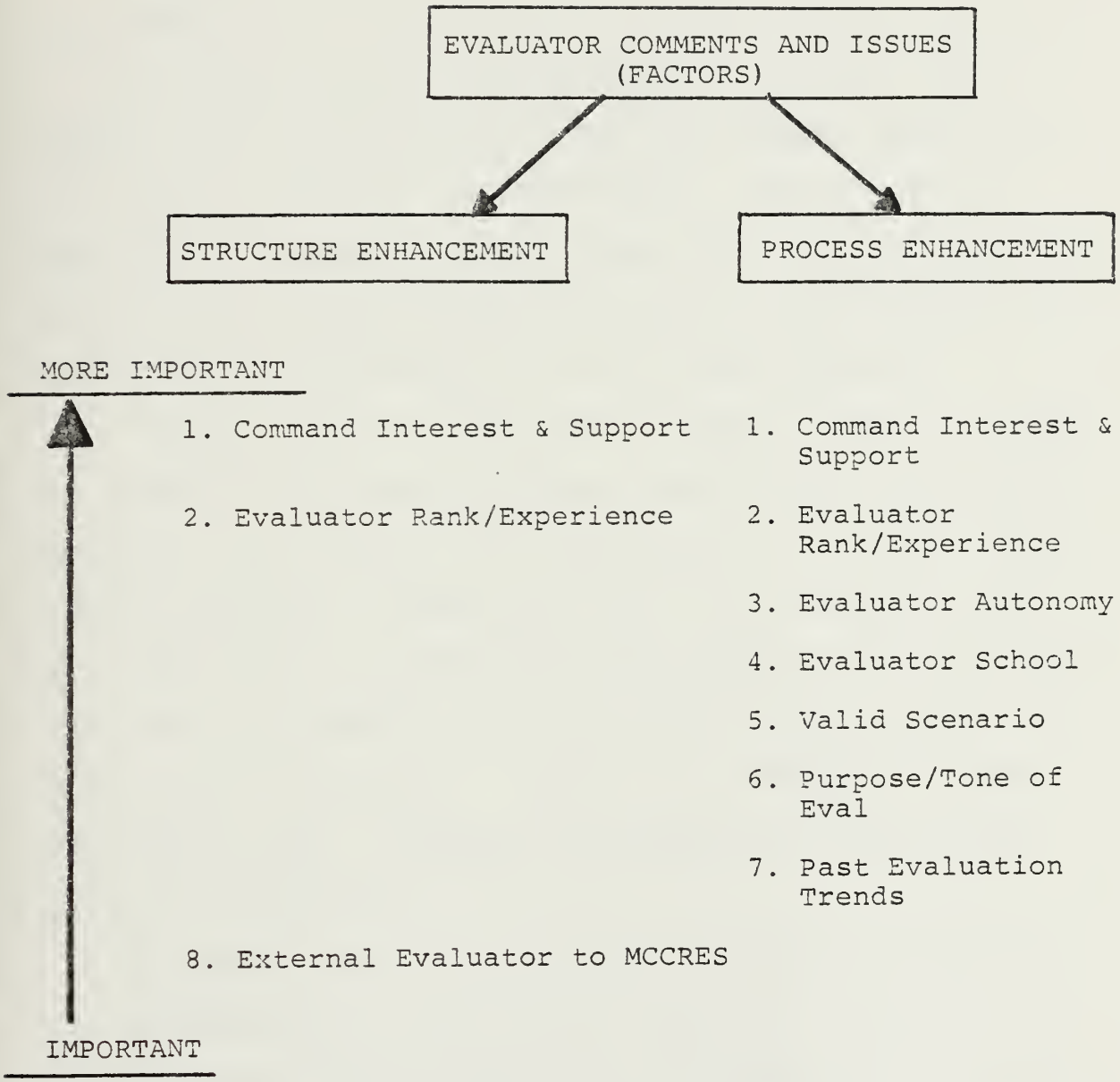

Figure 4.1 Importance and Category of Issues for Enhancement of the MCCRES System

V. A MODEL

A. GENERAL

The question posed in this chapter is one of: "Can a better mouse trap be built?" The more specific question is one asked in Chapter I of this thesis: "Can a model be developed to assist in the efficient selection and education of potential MCCRES evaluators so that the evaluators will perform at a predetermined level of effectiveness?"

However, before pursuing this question, there is a need to respond to an implied question found within the question posed for this thesis. The implication is that of, "is the current evaluation system any good?" In response to this, all respondents to field interviews indicated that currently evaluators are effective and the system used to select and train them is efficient. However, all indicated it could be improved upon. Therefore, a better mouse trap is the issue of this chapter.

The Marine Corps Order that established and regulates the MCCRES system, (MCO 3501.2) stipulates a desired level of performance effectiveness for its evaluators through the use of Evaluator Performance Standards (EPS). The Order points out that for a successful MCCRES, three types of evaluators are required: (1) umpire, (2) performance evaluator, and (3) exercise controller. These three types

of MCCRES evaluators are shown in Figure 5.1. The focus of this thesis is on only the Performance Evaluator, his selection, and his ability to perform effectively and efficiently.

The pursuit of evaluating the effectiveness of the other two types of evaluators, the umpire and exercise controller, is beyond the scope of this analysis.

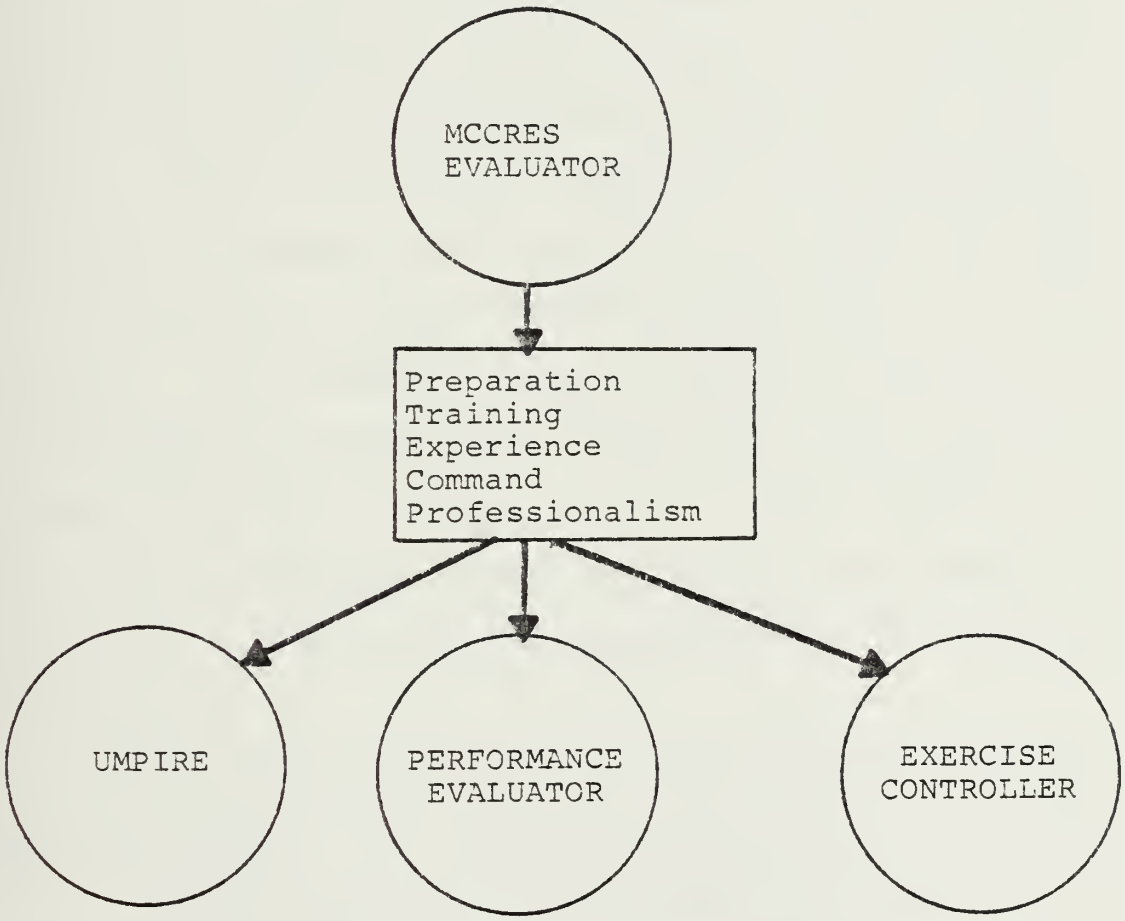

Figure 5.1 The Complete Evaluator
Adapted from (MCO 3501.2, page I-C-5)

This chapter takes the analysis of the collected data, as presented in Chapter IV, and uses it to construct a

model, or models, that have the potential to assist the commander in his selection and use of MCCRES evaluators. The development of the model is accomplished through the use of the elements of management control: structure and process.

B. MODEL DEVELOPMENT

In the discussion of the development of the model to enhance the commander's ability to more effectively select and use potential MCCRES evaluators there are two areas of focus. First, is the MCCRES organizational structure as it relates to authority and responsibility. Model development is accomplished by using knowledge gained from previous discussions: (1) management control theory and its application to structure, as presented in Chapter III; (2) analysis of cases, presented in Chapter IV; and (3) "the MCCRES management control structure model" (Fig. 3.2), which depicts from where and to whom the evaluation data flows in the MCCRES organization.

As a result of the analysis in the previous chapter, key individuals in the existing organizational structure are:

(1) The MCCRES Evaluation/Exercise Director and his influence on the selection of potential MCCRES evaluators.

(2) The Tactical Exercise Controller in his role of influencing the level of control and education of the selected evaluators.

(3) The external evaluator to the MCCRES organization, who measures the overall effectiveness of the MCCRES system itself and then formally reports this to the Exercise/Evaluation Commander.

The second area of focus is the MCCRES process as it relates to the effective collection and use of evaluation data. This model development is accomplished through knowledge gained from previous discussions: (1) management control theory and its application to process, as presented in Chapter III; (2) the analysis of cases, presented in Chapter IV; and (3) "the MCCRES management control process model (Fig. 3.3), which depicts what MCCRES does with the evaluation information. The resulting product of the analysis is the key contributing factors to this process. These factors are:

(1) The need for effective evaluator schooling.

(2) Using top quality people as evaluators.

(3) Providing for better MCCRES scenarios and techniques for marking it.

(4) Superiors who potentially can influence a given MCCRES by actively demonstrating concern and interest.

It is the combination of both elements; key individuals (structure) and key contributing factors (process), that bring focus on: (1) the required actions of certain individuals (billet/positions), (2) where those individuals fit

into the organizational structure, (3) the providing for an effective school and its teachings, and (4) a scenario that will provide for a more realistic opportunity to measure readiness, that result in identifying the required ingredients for constructing "a better mouse trap."

C. MODEL DESIGN

The purpose of the proposed models is to allow the commander to effectively select potential evaluators, and then provide a means to enhance their effectiveness through education. This purpose can be accomplished more effectively through the modification of two previously presented MCCRES models; (1) management control structure for MCCRES, (Fig. 3.2); and (2) management control process for MCCRES, (Fig. 3.3).

1. Management Control Structure Model for MCCRES

The model that is used to reflect a more effective method for the use of authority and responsibility in the conduct of a given MCCRES is proposed in Figure 5.2. This model is a modification of Figure 3.2; justification for the changes is based on conclusions from the analysis discussed in Chapter IV.

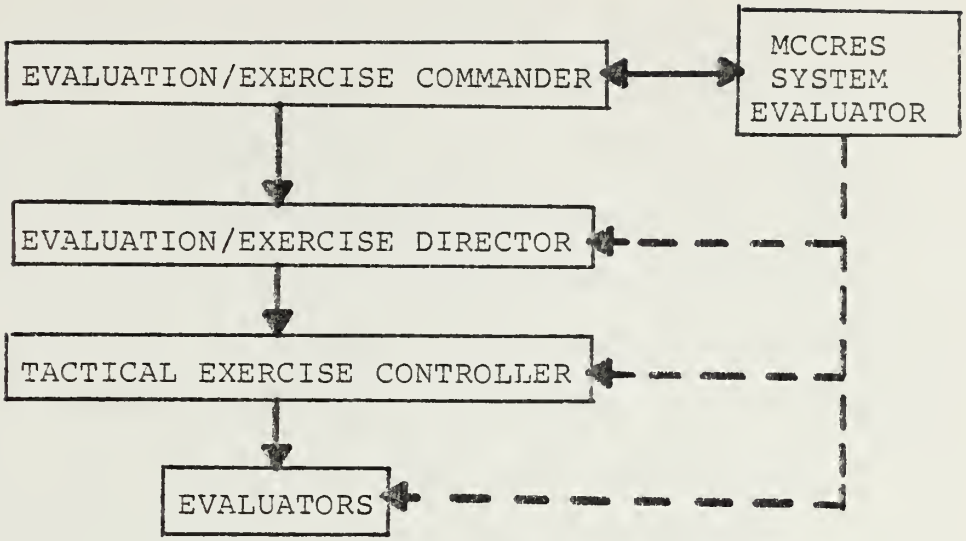

Figure 5.2 Modified MCCRES Management Control Structure Model

The model depicted in Figure 5.2 reflects the adaptation of Figure 3.2 to include the organizational requirement for the restructuring of MCCRES as required by factor (8) "External Evaluator to MCCRES" of the analysis as presented in Chapter IV. The modified model, Figure 5.2, with its addition of the "external evaluator," meets the required need for reorganization such that the organizational structure can provide the support needed if an evaluation of MCCRES is to be accomplished as a complete and separate system to be used for effective measurement of a unit's readiness. This new requirement, of an external evaluator to evaluate the effectiveness of the MCCRES Director, his TEC and its evaluators, provides a means for needed feedback information. This feedback is required for controls to

enhance the effectiveness of the overall system. These controls provide for: (1) effective use of evaluators who have appropriate rank and experience, and (2) renewed interest by all concerned, through information feedback and the subsequent applied control by the MCCRES Exercise/Evaluation Commander. Those decisions made as the result of this additional control feature will result in higher quality MCCRES scenarios and more effective overall unit evaluation.

2. Management Control Process Model for MCCRES

The model that is used for the discussion of illustrating a more effective use of MCCRES evaluation information is depicted in Figure 5.3. This model is identical to that of Figure 3.3, however, it is presented again so that emphasis and discussion can be focused on critical points within the model. The points in Figure 5.3 not germane to the results of the analysis presented in Chapter IV, and therefore not discussed, are those areas with diagonal lines.

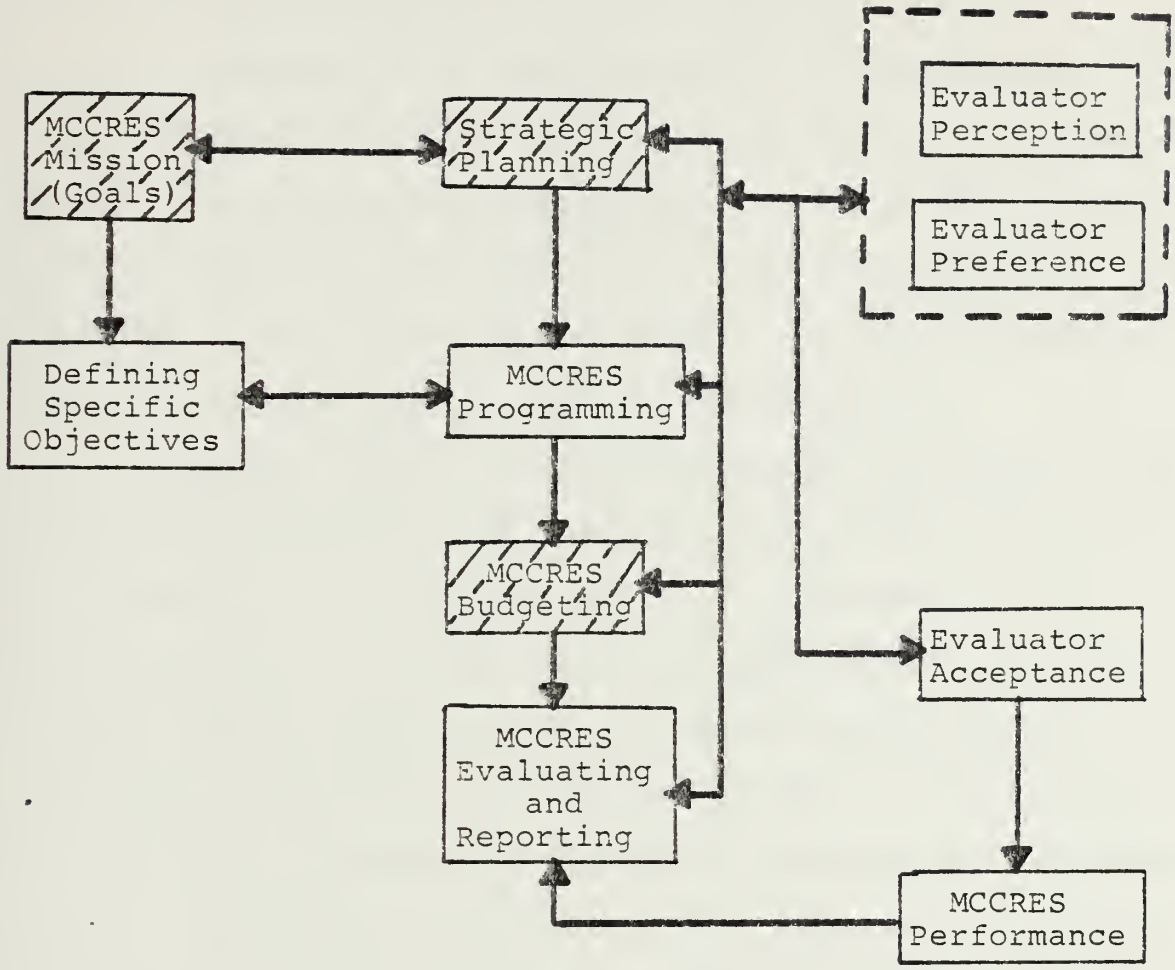

Figure 5.3 MCCRES Management Control Process Model (revised), adapted from Ramanathan (1982, p. 176)

The model presented in Figure 5.3 is useful in serving as a tool to focus the discussion on the enhancement of the MCCRES process. The model provides a means to emphasize corrections to the MCCRES "process" enhancement, as stipulated in the analysis of Chapter IV.

As stated in the analysis from the previous chapter, Chapter IV, factors: Command Interest & Support (1),

Evaluator Rank/Experience (2), Evaluator Autonomy (3), Evaluator Schooling (4), Valid Scenario (5), Purpose/Tone of Evaluation (6), and Past Evaluation Trends (7), can contribute to the improved effectiveness of the MCCRES process which contributes ultimately to the successful operation of the MCCRES. For the model to be valid, it must accommodate each of the listed factors one through seven.

Factors 1 and 2, "Command Interest and Support," and "Evaluator Rank/Experience," respectively, cannot be tied to any singular part of the process model. However, the quality of both affect the entire MCCRES process and the ultimate effectiveness toward its output, measuring unit readiness. By emphasizing command interest and the quality of people with commensurate experience throughout the MCCRES process, the expected results would be some level of MCCRES performance above what it was previously.

Factor 3, "Evaluator Autonomy," affects the areas of "MCCRES Performance" and "MCCRES Evaluating and Reporting." It is in these two areas where autonomy and its direct contribution to objective grading may provide the greatest benefit. It is the autonomy an evaluator achieves through the "twice removed" rule that allows the reduction of peer pressure to a point that objective marking is better served and ultimate overall system enhancement achieved.

Factor 4, "Evaluator School," will affect the process by contributing to the facilitation of improved evaluator

effectiveness. If "Evaluator Perception" of his duties and his abilities to effectively observe and accurately grade given events are enlightened through the teaching of evaluation principles and techniques, subsequent increased effectiveness in evaluator performance will result. If the evaluator is also taught the principles of bias that effect "Evaluator Preference" and "Evaluator Acceptance," both on the part of the evaluator and the evaluated unit, the result will be a more "accurate" or effective system for evaluation, i.e., enhanced "MCCRES Performance."

Factor 5, "Valid Scenario," effects the model only after strategic planning takes place. Certainly it is critical during the "MCCRES Programming" phase, given that some portion of the overall MCCRES program is specifically tailored each time a given unit is evaluated. The results of a well thought out scenario for a given unit is the product of a valid "Specific Program Objective" for measurement of combat readiness that is designed for that unit. The evaluation report that goes to Headquarters, Marine Corps also provides the means for feedback on the quality of this effort to upgrade and maintain a valid evaluation program.

Factor 6, "Determination by the Exercise Director as to Purpose of MCCRES," affects the evaluation report. The report is a valid statement of what was actually accomplished during the MCCRES process. However the process may be viewed in at least two ways: (1) is the MCCRES to be

an observation of a unit's readiness performance and a report on that observation, or (2) is it to be an operation in which there is a free flowing exchange of information and ideas between the unit and the MCCRES team with the end product for the evaluated unit culminating in the overall improvement in its proficiency at performing its combat mission. Either question serves the Order on MCCRES, as it is written, but this "tone" needs to be stipulated and enforced as the standard for evaluators to use during the conduct of a MCCRES.

Factor 7, "Past Evaluation Trends," is an issue that falls well within the model's "MCCRES Performance" block. Analysis of past trends can provide for more efficient use of the evaluator's time and thus provide a more comprehensive evaluation of MPS tasks the evaluator must observe and mark.

D. SUMMARY

In conclusion, this chapter has evaluated those comments and issues collected from evaluator interviews. With the validation of the eight factors (as determined in the analysis) as the corner stone for improving the effective use of evaluators new models were developed. Each factor has been incorporated into discussions concerning the illustration of two newly developed models. The models represent both the structure and process for improved management control

of the MCCRES and its resulting contribution to effective measurement and its reporting of unit readiness.

It is the conclusion of the investigation of this thesis that the two models, Figures 5.2 and 5.3, represent a means to increase the effectiveness of the MCCRES system. However, this conclusion and recommendations made as the result of the analysis and subsequent developed models, as reflected in Figures 5.2 and 5.3, are the subject of Chapter VI; "Conclusion and Recommendation."

VI. CONCLUSIONS AND RECOMMENDATIONS

A. GENERAL

The objective of this thesis was to provide an answer to the question: "Can a model be developed to assist in the efficient selection and education of potential MCCRES evaluators so that the evaluators will perform at a predetermined level of effectiveness?"

If a model can be developed, a secondary question must then be asked: "What attributes of the management control system (i.e., its structure and process) will this model provide?" The attributes can provide the concerned commander with a technique to use for more effective management of resources.

The first part of this chapter summarizes the: (1) findings of the investigation, (2) results of the analysis, and (3) subsequent development of a new model to accommodate the results of the analysis. Based on this summary the chapter makes recommandations that provide the commander a tool to be used in the selection of a more effective MCCRES evaluator. Recommendations for additional research are also provided.

B. CONCLUSIONS

It was found that there were eight factors that could enhance both the effectiveness of a commander in his selection of evaluators and their subsequent performance. The eight factors, are: (1) Command Interest and Support, (2) Evaluator Rank/Experience, (3) Evaluator Autonomy, (4) Evaluator Schooling, (5) Valid Scenario, (6) Purpose/Tone of Evaluation, (7) Past Evaluation Trends, and (8) External Evaluator to MCCRES. The eight factors were weighted based upon three criteria. The three weighting criteria are: (1) frequency that the factor was initiated and discussed by the interviewed evaluator, (2) how strongly the evaluator voiced his opinion about the factor, and (3) the degree of significance and perceived validity of the factor by the evaluators. These criteria provided a means to evaluate the significance and validity of comments in terms of the level of evaluator experience.

Based upon an analysis of the factor's validity, as supported by management control theory and the determination of the appropriate weight, each factor was assigned a numerical value of one (most important) through eight (important). Each factor was then placed in descending order of importance. This ordering facilitated the comparison of the relative affect each factor had on the currently used MCCRES system models (Fig. 3.2 and Fig. 3.3).

The models currently used reflect an effective management control system for MCCRES. The model presented in Figure 3.2 illustrates the existing structure of the system and the model presented in Figure 3.3 illustrates the existing process. Even though the current MCCRES is effective, the means by which the evaluators are selected and trained can be improved. The analysis in this thesis indicated adjustments to the current process and structure will result in a better use of the evaluator as a resource. The new structure (Fig. 5.2) and process (Fig. 5.3) models were developed to incorporate the requirement of the eight factors identified by the interviewed evaluators. The new models provide for system improvements by accommodating the requirements of the eight factors identified by the thesis research. Further, the models provide the commander an opportunity to incrementally adjust the system to meet unique situations or requirements. By judiciously applying one factor, several factors, or all factors and their attributes, the commander can exercise a varying degree of change to the current MCCRES system. The extent of conversion a commander desires depends on the availability of additional resources and the commander's commitment to support the eight factors as a means to enhance MCCRES evaluator selection and his subsequent operational effectiveness.

C. RECOMMENDATIONS

1. Modify the MCCRES Evaluator Selection Process

It is recommended that consideration be given to the incorporation of the eight factors into the selection of MCCRES evaluators. The models of Figures 5.2 and 5.3 are a means to reflect the contribution of each factor to either the MCCRES structure or process, and incorporate the principle of effective management control. Through the use of these two new models, the commander can visualize the need to exercise the required authority needed to perform his assigned responsibilities in a more effective manner. His resulting decisions will provide a more effective evaluation in terms of achieving more accurate measurements. The resulting MCCRES report of an evaluated unit's combat readiness will bear significantly more credibility.

2. Further Research

(a) Throughout the pursuit of this thesis it was evident that an investigation into the effectiveness of other inputs to the MCCRES system would be useful. For example, this paper investigated only the possibility of increased effectiveness of the Performance Evaluator and his direct contribution to the MCCRES effort. This investigation should be continued, with similar efforts directed at the Umpire and Exercise Controller and their contribution to an effective evaluation system. Upon conclusion of these

efforts there could be a consolidation of the results of each of the three studies to determine if there are common boundaries and principles equally applicable to each type of evaluator depicted in Figure 5.1, The Complete Evaluator.

(b) It is recommended there be a continuation of the investigation initiated with this thesis. Further study could provide a different perspective on the potential effectiveness of the models developed in this thesis. The use of research methods other than the case study method might be used to achieve another perspective of the effectiveness of MCCRES and to validate the models developed in this thesis.

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